



Economic Commission for Europe**Executive Body for the Convention on Long-range
Transboundary Air Pollution****Thirty-eighth session**

Geneva, 10–14 December 2018

Item 7 of the provisional agenda

Revised mandates of task forces and centres under the Convention**Revised mandates for the task forces and centres under the
Working Group on Effects*****Submitted by the Working Group on Effects***Summary*

The mandates for the task forces and centres the Working Group on Effects are proposed for revision with the aim to continue to align the work of task forces and centres under the Convention with its strategic priorities taking into consideration the policy response to the 2016 scientific assessment of the Convention, as contained in the current document.

The Executive Body at its thirty-seventh session (Geneva, 11–14 December 2017) took note of the draft revised mandates under the Steering Body to EMEP and the Working Group on Effects and requested that the final version be submitted for its consideration at the thirty-eighth session. The Working Group on Effects discussed the draft revised mandates of its task forces and centres at the fourth joint session of the Working Group on Effects and the Steering Body to the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP) (Geneva, 10–14 September 2018) compiled by the Chair of the Working Group of Effects with support from the secretariat. It agreed to submit to the Executive Body for its consideration a version revised by the Chair of the Working Group, the Chair of the EMEP Steering Body, the Co-Chairs of task forces and centres and the Bureau of the Executive Body in line with discussions and comments received.

* The present document is being issued without formal editing.

GE.18-16009(E)



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Revised mandates for the task forces and centres and under the Working Group on Effects

A. Revised mandate for the Task Force and the Programme Centre of the International Cooperative Programme on Assessment and Monitoring of the Effects of Air Pollution on Rivers and Lakes

1. Introduction

1. The current terms of reference (mandates) for International Cooperative Programmes (ICPs) and the Task Force on the Health Aspects of Air Pollution ~~archad-been~~ specified in document *Future Development of Effects-Oriented Activities* (EB.AIR/WG.1/2000/4, Annexes II-VIII) approved by the Working Group on Effects and the Executive Body in 2000.

2. Highlights of achievements of the Task Force and Programme Centre of the International Cooperative Programme for assessment and monitoring of the effects of air pollution on rivers and lakes (ICP Waters) are:

(a) Maintenance of a regionally extensive database on water chemistry and biology (aquatic macro-invertebrates) in areas in Europe and North America, that are sensitive to air pollution;

(b) Developing and maintaining high data quality standards by developing and adhering to a manual of recommended methods, as well as undertaking an annual inter-calibration of chemical analyses and biological classifications;

(c) Documentation of widespread biological and chemical recovery of acid-sensitive waters as a response to reduced emissions of sulphur and nitrogen, through the periodic trend assessments in water chemistry and biology, providing evidence that air pollution policy has its intended effect, but also highlighting that many sensitive surface waters remain acidified;

(d) Documentation of increased aquatic biodiversity as a result of reduced sulphur emissions;

(e) Documentation of mercury in fish in northern, boreal lakes, at levels that exceed limits advised for human consumption; for lakes that are impacted by air pollution ~~for which~~ there is so far little evidence that levels of mercury in fish are declining, implying that mercury pollution remains a concern;

(f) Evidence that climate change may present a delay for chemical and biological recovery of surface waters.

3. The mandates for the task forces and centres under the Working Group on Effects ~~need to be are being~~ revised and updated to ensure that they are consistent with the provisions of the amended protocols to the Convention, ~~as well as its and to take into account the findings and~~ strategic priorities ~~as~~ set out in the following documents:

(a) Revised Long-term Strategy for the Convention on Long-range Transboundary Air Pollution (~~ECE/EB.AIR/2018/4~~);

(b) The 2016 scientific assessment of the Convention;¹ and

Commented [US1]: To be updated after adoption of the LTS

¹ See Rob Maas and Peringe Grennfelt, eds., *Towards Cleaner Air: Scientific Assessment Report 2016* (Oslo, 2016) and United States Environmental Protection Agency and Environment and Climate

(c) Policy response to the 2016 scientific assessment of the Convention (ECE/EB.AIR/WG.5/2017/3, ECE/EB.AIR/WG.5/2017/3/Corr.1 and ECE/EB.AIR/2017/4).

4. The revised mandate contained below, includes the key objective and functions of the Task Force and the Centre to be carried out on an ongoing basis. ~~It is expected to be in place for the next 5 to 10 years.~~ Additional activities, and specific tasks and associated deliverables to be carried out in a shorter timeframe, will be included in the biennial workplans for the implementation of the Convention.

5. The lead country or countries have the responsibility for leading and coordinating the ongoing work and tasks of the Task Force, for organizing its meetings, for communicating with participating experts, for maintaining an up-to-date webpage that includes information on the activities, work, meetings and participants of the Task Force, and for other organizational arrangements in accordance with the biennial workplan. Chairs of the Task Force are appointed by the lead country or countries to carry out these responsibilities.

6. The Task Force and the centre are responsible for carrying out the work assigned to them in the biennial workplans approved by the Executive Body, and reporting thereon, as well as for keeping other relevant bodies apprised of its work.

7. The Task Force will be comprised of subject matter experts from the Parties to the Convention, acting in their personal capacity.

8. Meetings of the Task Force will be open to representatives of intergovernmental or accredited non-governmental organizations, researchers, industry associations, and other relevant organizations. Co-Chairs are encouraged to invite individuals with expertise relevant to the work of the Task Force. Meeting reports will reflect the views of all participants to the extent practicable.

9. In the event that a lead country needs to discontinue its leadership role, it is encouraged to notify the secretariat, co-chairs, and other lead countries as soon as possible, but preferably no later than 1 year prior to the time it will need to cease its leadership activities. In that event, the withdrawing lead country will make every effort to ensure a smooth transition to the next leadership model, by ensuring that all data and any other information required for the operations of the task force are provided to the appropriate country or person(s).

2. Revised mandate for the Task Force and the Programme Centre of the International Cooperative Programme on Assessment and Monitoring of the Effects of Air Pollution on Rivers and Lakes (ICP Waters)

10. ~~Norway leads the Task Force and The Programme~~ Centre of ICP Waters. ~~The Programme Centre is~~ located in the Norwegian Institute for Water Research in Oslo. The Centre is responsible for the detailed planning and coordination of the Programme.

11. The Task Force and the Centre report on their activities and deliverables to the Working Group on Effects.

12. The functions of the Centre and the Task Force are to:

(a) Plan and conduct its technical work to assess, using monitoring data and other sources of scientific evidence:

(i) The degree and geographic extent of the impact of atmospheric pollution, in particular acidification, on surface water chemistry and biology – including biodiversity and assess temporal trends and spatial patterns;

(ii) Spatial patterns and temporal trends of heavy metals, most importantly mercury, in aquatic ecosystems, related to atmospheric pollution;

- (iii) The impact of persistent organic pollutants in aquatic ecosystems, related to atmospheric pollution;
 - (iv) The impact of confounding factors relating to air pollution impacts on surface waters such as climate, climate change and land-use.
 - (b) Contribute to:
 - (i) Assess air pollution impacts on aquatic ecosystems through collating and reviewing scientific literature;
 - (ii) Update the *Manual on Methodologies and Criteria for Modelling and Mapping Critical Loads and Levels and Air Pollution Effects, Risks and Trends*² (Modelling and Mapping Manual) and associate background documents with the latest relevant scientific knowledge.
 - (c) Promote international harmonization of monitoring practices by:
 - (i) Maintaining and updating a manual for methods and operation;
 - (ii) Conducting an annual chemical intercomparison and an annual biological intercalibration; and
 - (iii) Compile a centralized database with data quality control and assessment capabilities.
 - (d) Support the Parties with the further development and implementation of methodologies described under (a) and (b), including requirements of the new European Union National Emissions Ceilings Directive (Directive (EU) 2016/2284); organize the annual Task Force meeting and invite Parties to attend, present their work related the programme, and contribute to discussions and new developments;
 - (e) Support and encourage participation of countries in Eastern Europe, Caucasus and Central Asia in meetings and activities of the Task Force;
 - (f) Collaborate with (i) ICP on Integrated Monitoring of Air Pollution Effects on Ecosystems (ICP Integrated Monitoring) on organization of meetings, and on assessing air pollution impacts on surface waters; (ii) other bodies under the Convention (ICP on Modelling and Mapping of Critical Levels and Loads and Air Pollution Effects, Risks and Trends (to ICP Modelling and Mapping), Coordination Centre for Effects, the Meteorological Synthesizing Centre-West) on thematic reports defined in the workplan;
 - (g) Collaborate with external partners, in particular, with the Minamata Convention on Mercury (Minamata Convention) and the Arctic Monitoring and Assessment Programme (AMAP) of the Arctic Council on issues of common interest;
- ²A first version of the Mapping Manual was published in 1993. It has since been updated three times: in 1996, 2004 and again in 2016. The full text of the 2016 version is available as online, by chapter, from the website of the International Cooperative Programme on Modelling and Mapping of Critical Levels and Loads and Air Pollution Effects, Risks and Trends:
http://icpmapping.org/Latest_update_Mapping_Manual.
- (h) Carry out other tasks assigned to it by Working Group on Effects and the Executive Body.

B. Revised mandate for the Task Force and the Programme Centre of the International Cooperative Programme on Assessment and Monitoring of Air Pollution Effects on Forests

1. Introduction

13. The current terms of reference (mandates) for International Cooperative Programmes (ICPs) and the Task Force on the Health Aspects of Air Pollution ~~had been~~ are specified in

document Future Development of Effects-Oriented Activities (EB.AIR/WG.1/2000/4, Annexes II-VIII) approved by the Working Group on Effects and the Executive Body in 2000.

14. Highlights of achievements of the Task Force and the Programme Centre of the International Cooperative Programme on Assessment and Monitoring of Air Pollution Effects on Forests (ICP Forests) are:

(a) Continuous data collection from the two levels of the forest ecosystem monitoring and research infrastructure, installed by the member states, is maintained. Quality assurance measures in the field, in laboratories as well as quality control measures during data submission are constantly improved;

(b) Various research activities in- and outside the Convention were supported via adequate data dissemination and evaluation support activities;

(c) Joint evaluation activities comparing the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP) modelling estimates and ICP Forests field measurements is ongoing- with important outcomes for both sides. Various publications have been launched during the years relating observed effects and modelled EMEP estimates and own on-site measurement of environmental including soil conditions affected by deposition and climate;

(d) Joint activities with the ICP on Integrated Monitoring of Air Pollution Effects on Ecosystems (ICP Integrated Monitoring; integrated study) and the ICP on Effects of Air Pollution on Natural Vegetation and Crops (ICP Vegetation; ozone symptoms) have in recent years been intensified. Further co-operation with the ICP on Modelling and Mapping of Critical Levels and Loads and Air Pollution Effects, Risks and Trends (ICP Modelling and Mapping; critical loads) is intended;

(e) ICP Forests is increasingly concentrating on evaluations of long-term trends using data from its respective surveys (deposition, defoliation, meteorology, ozone concentrations, parameters from soil solution and foliar analyses, wood increment) under additional consideration of space;

(f) Various studies on cause-effect relationship have been and are conducted and supported by the Programme Coordinating Centre;

(g) Biodiversity aspects derived from ICP Forests field surveys have recently been evaluated with some positive result (influence of nitrogen deposition could be shown);

(h) Other aspects relevant for forest ecosystems like climate change effects are incorporated or even focused at in many cause-effect studies;

(i) Popularised publications are issued annually; a technical report is published regularly and contributions to various scientific publications are made;

Commented [US2]: Not clear what this means.

(j) Co-operation with the European Union has recently been reinforced: under the European Union National Emissions Ceilings Directive³ activities have been launched and will be continued further in cooperation with ICP Integrated Monitoring, ICP Modelling and Mapping, ICP Vegetation and ICP Waters;

(k) The ICP Forests Manual⁴ was updated in 2016 and 2017.

15. The mandates for the task forces and centres under the Working Group on Effects ~~need to be~~ ~~are being~~ revised and updated to ensure that they are consistent with the provisions of the amended protocols to the Convention, ~~as well as its and to take into account the findings and~~ strategic priorities ~~as~~ set out in the following documents:

(a) Revised Long-term Strategy for the Convention on Long-range Transboundary Air Pollution (~~ECE/EB.AIR/2018/1~~);

(b) The 2016 scientific assessment of the Convention; and

(c) Policy response to the 2016 scientific assessment of the Convention (ECE/EB.AIR/WG.5/2017/3, ECE/EB.AIR/WG.5/2017/3/Corr.1 and ECE/EB.AIR/2017/4).

16. The revised mandate contained below, includes the key objective and functions of the Task Force and the Centre to be carried out on an ongoing basis. ~~It is expected to be in place for the next 5 to 10 years.~~ Additional activities, and specific tasks and associated deliverables to be carried out in a shorter timeframe, will be included in the biennial workplans for the implementation of the Convention.

17. The lead country or countries have the responsibility for leading and coordinating the ongoing work and tasks of the Task Force, for organizing its meetings, for communicating with participating experts, for maintaining an up-to-date webpage that includes information on the activities, work, meetings and participants of the Task Force, and for other organizational arrangements in accordance with the biennial workplan. Chairs of the Task Force are appointed by the lead country or countries to carry out these responsibilities.

18. The Task Force and the centre are responsible for carrying out the work assigned to them in the biennial workplans approved by the Executive Body, and reporting thereon, as well as for keeping other relevant bodies apprised of its work.

19. The Task Force will be comprised of subject matter experts from the Parties to the Convention, acting in their personal capacity.

20. Meetings of the Task Force will be open to representatives of intergovernmental or accredited non-governmental organizations, researchers, industry associations, and other relevant organizations. Co-Chairs are encouraged to invite individuals with expertise relevant to the work of the Task Force. Meeting reports will reflect the views of all participants to the extent practicable.

21. In the event that a lead country needs to discontinue its leadership role, it is encouraged to notify the secretariat, co-chairs, and other lead countries as soon as possible, but preferably no later than 1 year prior to the time it will need to cease its leadership activities. In that event, the withdrawing lead country will make every effort to ensure a smooth transition to the next leadership model, by ensuring that all data and any other

³ Directive (EU) 2016/2284.

⁴ See <http://icp-forests.net/page/icp-forests-manual>.

information required for the operations of the task force are provided to the appropriate country or person(s).

2. Revised mandate for the Task Force and the Programme Centre of the International Cooperative Programme on Assessment and Monitoring of Air Pollution Effects on Forests (ICP Forests).

22. ~~Germany leads the Task Force and the~~ The Programme Coordinating Centre (PCC) of ICP Forests. ~~The Programme Centre~~ is located in the Johann Heinrich von Thünen Institute, Federal Research Institute for Rural Areas, Forestry and Fisheries, at Braunschweig. The Centre is responsible for the detailed planning and coordination of the Programme.

23. The Task Force and the Centre report on their activities and deliverables to the Working Group on Effects.

24. The functions of the Centre and the Task Force are to:

(a) Support Parties in installing and operating its forest monitoring and research infrastructures by providing and constantly developing respective technical and analytical guidelines (e.g. by up-dating the ICP Forests Manual and organizing or supporting inter-comparison courses);

(b) Permanently update and further develop the ICP Forests collaborative database, carry out quality control and quality assurance measures on data submitted by Parties, provide assistance to the Parties directly and via adequate documentation, and foster dissemination of high quality data in- and outside of the Convention;

(c) Contribute to the work and publications of other international institutions (European Union, United Nations Food and Agriculture Organization (FAO)) and research institutes to promote the visibility of the Convention and its aims;

(d) Support the Parties (in general) by organizing annual Task Force meetings, workshops and related activities to exchange experiences and make suggestion to further develop the monitoring and research activities of ICP Forests at all levels of its activities;

(e) Support specifically the Parties in Eastern Europe, the Caucasus and Central Asia, further encourage Parties in the region to intensify or install forests monitoring infrastructures following ICP Forests standards;

(f) Further collaborate with thematically related ICPs (Integrated Monitoring, Modelling and Mapping and Vegetation) and EMEP bodies (the Meteorological Synthesizing Centre-West) by designing joint evaluations, organizing common scientific events and producing joint publications;

(g) Contribute to the work and publications of other international institutions (European Union bodies, FAO) and research institutes to promote the visibility of the Convention and its aims. A long-lasting co-operation with the Acid Deposition Monitoring Network in East Asia (EANET) is maintained. Such activities secure at the same time the further development of evaluation techniques and strategies regarding possible cause-effect relationships;

(h) Carry out other tasks assigned to it by the Working Group on Effects and the Executive Body.

C. Revised mandate for the Task Force and the Programme Centre of the International Cooperative Programme on Effects of Air Pollution on Natural Vegetation and Crops

1. Introduction

25. The current terms of reference (mandates) for International Cooperative Programmes (ICPs) and the Task Force on the Health Aspects of Air Pollution ~~had been~~ are specified in document Future Development of Effects-Oriented Activities (EB.AIR/WG.1/2000/4, Annexes II-VIII) approved by the Working Group on Effects (WGE) and the Executive Body in 2000.

26. Highlights of achievements of the Task Force and Programme Centre of the International Cooperative Programme on Effects of Air Pollution on Natural Vegetation and Crops are:

(a) Establishment of more than twenty ozone flux-based critical levels for vegetation (including forests), biologically a more relevant indicator of the risk of ozone impacts on vegetation than concentration-based critical levels, and identifying areas most at risk of ozone impacts;

(b) Provision of evidence of ozone impacts on vegetation, including interactions with nitrogen pollution and climate change, and consequences for ecosystem services and biodiversity, showing that impacts are widespread;

(c) Observation of a lack of trends of ozone impacts on vegetation in the last two decades, hence ozone pollution remains of global concern with background concentrations rising in Europe, contributing to impacts on vegetation;

(d) Monitoring heavy metal and nitrogen concentrations in naturally growing mosses since 1990 has identified declines in concentrations in many areas of Europe whilst hotspots of heavy metal and nitrogen pollution still remain;

(e) Considerable decline in cadmium and lead concentrations in mosses since 1990, and to a lesser extent mercury concentrations, provides evidence for the success of heavy metal air pollution abatement policies in Europe, with mercury pollution remaining of global concern.

27. The mandates for the task forces and centres under the Working Group on Effects ~~need to be~~ are being revised and updated to ensure that they are consistent with the provisions of the amended protocols to the Convention, ~~as well as its and to take into account the findings and~~ strategic priorities ~~as~~ set out in the following documents:

(a) Revised Long-term Strategy for the Convention on Long-range Transboundary Air Pollution (~~ECE/EB.AIR/2018/1~~);

(b) The 2016 scientific assessment of the Convention; and

(c) Policy response to the 2016 scientific assessment of the Convention (ECE/EB.AIR/WG.5/2017/3, ECE/EB.AIR/WG.5/2017/3/Corr.1 and ECE/EB.AIR/2017/4).

28. The revised mandate contained below, includes the key objective and functions of the Task Force and the Centre to be carried out on an ongoing basis. ~~It is expected to be in place for the next 5 to 10 years.~~ Additional activities, and specific tasks and associated deliverables to be carried out in a shorter timeframe, will be included in the biennial workplans for the implementation of the Convention.

29. The lead country or countries have the responsibility for leading and coordinating the ongoing work and tasks of the Task Force, for organizing its meetings, for communicating with participating experts, for maintaining an up-to-date webpage that includes information on the activities, work, meetings and participants of the Task Force, and for other organizational arrangements in accordance with the biennial workplan. Chairs of the Task Force are appointed by the lead country or countries to carry out these responsibilities.

30. The Task Force and the centre are responsible for carrying out the work assigned to them in the biennial workplans approved by the Executive Body, and reporting thereon, as well as for keeping other relevant bodies apprised of its work.

31. The Task Force will be comprised of subject matter experts from the Parties to the Convention, acting in their personal capacity.

32. Meetings of the Task Force will be open to representatives of intergovernmental or accredited non-governmental organizations, researchers, industry associations, and other relevant organizations. Co-Chairs are encouraged to invite individuals with expertise relevant to the work of the Task Force. Meeting reports will reflect the views of all participants to the extent practicable.

33. In the event that a lead country needs to discontinue its leadership role, it is encouraged to notify the secretariat, co-chairs, and other lead countries as soon as possible, but preferably no later than 1 year prior to the time it will need to cease its leadership activities. In that event, the withdrawing lead country will make every effort to ensure a smooth transition to the next leadership model, by ensuring that all data and any other information required for the operations of the task force are provided to the appropriate country or person(s).

2. Revised mandate for the Task Force and the Programme Centre of the International Cooperative Programme on Effects of Air Pollution on Natural Vegetation and Crops (ICP Vegetation)

34. ~~The United Kingdom of Great Britain and Northern Ireland leads the Task Force and the Programme Centre of ICP Vegetation. The Programme Centre is located in the Centre for Ecology & Hydrology at Bangor. The Centre is responsible for the detailed planning and coordination of the Programme.~~

35. The Task Force and the Centre report on their activities and deliverables to the Working Group on Effects.

36. The functions of the Centre and the Task Force are to:

(a) Plan and conduct its technical work to collate and review evidence of:

(i) Air pollution impacts on vegetation from monitoring activities, experiments, surveys and the literature, including impacts in a changing climate, at the local, regional and global scale, and assess spatial patterns and temporal trends;

(ii) Spatial patterns and temporal trends of the deposition of for example heavy metals, nitrogen and persistent organic pollutants to vegetation using naturally growing mosses as bio-monitors.

(b) Develop further and apply flux-based ozone critical levels for vegetation, map areas at risk of ozone impacts on vegetation and exceedances of critical levels at the regional and global scale in the current and future climate; update the Modelling and Mapping Manual and associated background documents with the latest relevant scientific knowledge; collate and review information on the impacts of air pollution on food production (including economic assessments), ecosystem services and biodiversity;

(c) ~~Stimulate/Encourage~~ outreach activities and train new partners, ~~particularly in least developed countries, low and lower middle income in all countries-Parties~~ (e.g. ICP Vegetation-Asia network), to apply methodologies described under (a) and (b), liaise with global networks and initiatives inside and outside the Convention to contribute to the United Nations' Sustainable Development Goals; invite new partners to attend the annual Task Force meeting and specific workshops;

(d) Support ~~the~~ Parties with the further development and implementation of methodologies described under (a) and (b), including requirements of the new European Union National Emissions Ceilings Directive⁵; organize the annual Task Force meeting and invite Parties to attend, present their work related to the programme, and contribute to discussions and new developments;

(e) In 2014, the coordination of the moss survey to monitor deposition of specified air pollutants (see (a)) was transferred to the Russian Federation to enhance participation of countries in Eastern Europe, Caucasus and Central Asia. New contacts made within this network are used to stimulate participation in ozone-related activities too. Relevant documents will be translated into Russian to stimulate knowledge transfer and the organisation of relevant meetings and workshops in countries in Eastern Europe, Caucasus and Central Asia, is encouraged;

(f) Collaborate with the ICP Forests on monitoring ozone impacts on forests and monitoring deposition of relevant air pollutants to mosses; with the ICP Modelling and Mapping on further developing critical levels and loads for vegetation; with the Meteorological Synthesizing Centre-West on modelling ozone fluxes and nitrogen deposition to vegetation; with the Meteorological Synthesizing Centre-East on modelling heavy metal deposition to vegetation; with the Task Force on Integrated Assessment Modelling and the Centre for Integrated Assessment Modelling on modelling ozone fluxes in the Greenhouse Gas Air Pollution Interactions and Synergies (GAINS) model; with the Task Force on Hemispheric Transport of Air Pollution (TFHTAP) on modelling ozone fluxes to vegetation using TFHTAP scenarios and assess implications for food production and ecosystem services;

(g) Collaborate with the Tropospheric Ozone Assessment Report (TOAR), initiated by the International Global Atmospheric Chemistry (IGAC) Project, on producing reports and generate globally easily accessible ozone exposure and dose metrics; the Climate and Clean Air Coalition (CCAC) and future United Nations Environment Programme (UNEP) initiatives benefiting from assessment of the risk of ozone impacts on vegetation;

(h) Carry out other tasks assigned to it by the Working Group on Effects and the Executive Body.

D. Revised mandate for the Task Force and the Programme Centre of the International Cooperative Programme on Integrated Monitoring of Air Pollution Effects on Ecosystems

1. Introduction

37. The current terms of reference (mandates) for International Cooperative Programmes (ICPs) and the Task Force on the Health Aspects of Air Pollution ~~had been~~ are specified in document *Future Development of Effects-Oriented Activities*

⁵ Directive 2016/2284.

(EB.AIR/WG.1/2000/4, Annexes II-VIII) approved by the Working Group on Effects (WGE) and the Executive Body in 2000.

38. Highlights of achievements of the Task Force and the Programme Centre of the International Cooperative Programme on Integrated Monitoring of Air Pollution Effects on Ecosystems are:

(a) Maintenance of a regionally extensive database on intensively monitored background sites in Europe, valuable for assessing both air pollution and climate change impacts, as well as their interactions. Assessment results have been documented also in high-class scientific journals;

(b) Documentation of long-term complex impacts and recovery of sulphur and nitrogen deposition on both chemical and biological variables;

(c) Assessment long-term trends and fluxes of heavy metals in various ecosystem compartments;

(d) Contributed with ~~provision providing of~~ evidence of negative effects on plant species richness when nitrogen deposition exceeds the critical load;

(e) Set-up of dynamic modelling systems that have allowed the assessment of impacts of future nitrogen and sulphur emission/deposition scenarios;

(f) Validation of critical load concepts using both empirical data and modelling;

(g) Close cooperation with other ICPs and the Joint Expert Group on Dynamic Modelling on ecosystem impact assessment and dynamic modelling;

(h) Development and maintenance of European monitoring and research infrastructures together with the Integrated European Long-Term Ecosystem, Critical Zone & Socio-Ecological Research Infrastructure (eLTER ESFRI RI).

39. The mandates for the task forces and centres under the Working Group on Effects ~~need to be re bc ing~~ revised and updated to ensure that they are consistent with the provisions of the amended protocols to the Convention, ~~as well as its and to take into account the findings and~~ strategic priorities ~~as~~ set out in the following documents:

(a) Revised Long-term Strategy for the Convention on Long-range Transboundary Air Pollution ~~(ECE/EB.AIR/2018/1)~~;

(b) The 2016 scientific assessment of the Convention; and

(c) Policy response to the 2016 scientific assessment of the Convention (ECE/EB.AIR/WG.5/2017/3, ECE/EB.AIR/WG.5/2017/3/Corr.1 and ECE/EB.AIR/2017/4).

40. The revised mandate contained below, includes the key objective and functions of the Task Force and the Centre to be carried out on an ongoing basis. ~~It is expected to be in place for the next 5 to 10 years.~~ Additional activities, and specific tasks and associated deliverables to be carried out in a shorter timeframe, will be included in the biennial workplans for the implementation of the Convention.

41. The lead country or countries have the responsibility for leading and coordinating the ongoing work and tasks of the Task Force, for organizing its meetings, for communicating with participating experts, for maintaining an up-to-date webpage that includes information on the activities, work, meetings and participants of the Task Force, and for other organizational arrangements in accordance with the biennial workplan. Chairs of the Task Force are appointed by the lead country or countries to carry out these responsibilities.

42. The Task Force and the centre are responsible for carrying out the work assigned to them in the biennial workplans approved by the Executive Body, and reporting thereon, as well as for keeping other relevant bodies apprised of its work.

43. The Task Force will be comprised of subject matter experts from the Parties to the Convention, acting in their personal capacity.

44. Meetings of the Task Force will be open to representatives of intergovernmental or accredited non-governmental organizations, researchers, industry associations, and other relevant organizations. Co-Chairs are encouraged to invite individuals with expertise relevant to the work of the Task Force. Meeting reports will reflect the views of all participants to the extent practicable.

45. In the event that a lead country needs to discontinue its leadership role, it is encouraged to notify the secretariat, co-chairs, and other lead countries as soon as possible, but preferably no later than 1 year prior to the time it will need to cease its leadership activities. In that event, the withdrawing lead country will make every effort to ensure a smooth transition to the next leadership model, by ensuring that all data and any other information required for the operations of the task force are provided to the appropriate country or person(s).

2. Revised mandate for the Task Force and the Programme Centre of the International Cooperative Programme on Integrated Monitoring of Air Pollution Effects on Ecosystems (ICP Integrated Monitoring)

46. ~~Sweden leads the Task Force and Finland leads the~~ The Programme Centre of ICP Integrated Monitoring. ~~The Programme Centre~~ is located in the Finnish Environment Institute in Helsinki. The Task Force is responsible for planning, coordinating and evaluating the Programme, while the Programme Centre is responsible for maintaining the database, conducting and coordinating evaluations of the data, and reporting and disseminating results of the Programme.

47. The Task Force and the Centre report on their activities and deliverables to the Working Group on Effects.

48. The functions of the Centre and the Task Force are to:

(a) Provide information on the state of ecosystems and their long-term changes, with respect to the regional variation and impact of selected air pollutants, and including effects on biota, in particular to:

(i) Monitor the state of natural/semi-natural ecosystems and provide explanations for changes, in terms of causative environmental factors;

(ii) Develop and validate models for the simulation of ecosystem effects and use these to estimate responses to actual or predicted changes in pollution stress;

(iii) Carry out biomonitoring for detecting changes and develop biota indicators identifying future alterations; and

(iv) Develop further tools to guide users in the interpretation of the available data and their use in (effects) models;

(b) Prioritize and rationalize the Programme's network, monitoring activities, and data reporting;

(c) Monitor and assess long-term trends, stores and fluxes of elements and compounds of priority interest to the Convention (e.g. nitrogen and heavy metals), as well as other elements and parameters important for the evaluation of environmental effects (such as base cations, carbon and phosphorous,) and for meeting relevant international data

requirements;

(d) Develop dynamic models of biogeochemical effects and recovery, risk assessment, and interactions with climate change with emphasis on timescales of ecosystem effects;

(e) Develop biomonitoring and assessment of biological data particularly on vegetation;

(f) Collaborate with ecosystem oriented ICPs, the Joint Expert Group on Dynamic Modelling and EMEP centers on impact assessment using monitoring data and dynamic modelling;

(g) Collaborate with external partners, particularly European research infrastructures (eLTER ESFRI RI and LifeWatch) on impact assessments and modelling and database infrastructures;

(h) Carry out other tasks assigned to it by the Working Group on Effects and the Executive Body.

E. Revised mandate for the Task Force and the Programme Centre of the International Cooperative Programme on Effects of Air Pollution on Materials, Including Historic and Cultural Monuments.

1. Introduction

49. The current terms of reference (mandates) for International Cooperative Programmes (ICPs) and the Task Force on the Health Aspects of Air Pollution ~~had been~~ are specified in document Future Development of Effects-Oriented Activities (EB.AIR/WG.1/2000/4, Annexes II-VIII) approved by the Working Group on Effects (WGE) and the Executive Body in 2000.

50. Highlights of achievements of the Task Force and Programme Centre of the International Cooperative Programme on Effects of Air Pollution on Materials, Including Historic and Cultural Monuments (ICP Materials) are:

(a) Maintenance of a regionally extensive database on pollution, climate, corrosion and soiling in a network of urban, rural and industrial test sites in Europe and North America;

(b) Develop and maintain high quality standards in data collection by adhering to relevant International Organization for Standardization (ISO) standards within ISO TC 156 for exposure and evaluation of corrosion attack on materials;

(c) Development of corrosion dose-response-functions for the sulphur dioxide dominating situation, corrosion dose-response functions for the multi-pollutant situation and soiling dose-response functions for a variety of materials;

(d) Regular exposure of indicator materials for periodic trend assessments (each third year) enabling quantification of trends in pollution, corrosion and soiling;

(e) Several case studies on United Nations Educational, Scientific, and Cultural Organization (UNESCO) cultural heritage sites as policy relevant indicators for verification of air pollution effects on real objects of cultural heritage, including economic assessment.

51. The mandates for the task forces and centres under the Working Group on Effects ~~need to be~~ are being revised and updated to ensure that they are consistent with the provisions of the amended protocols to the Convention, ~~as well as its~~ and to take into account the findings and strategic priorities as set out in the following documents:

(a) Revised Long-term Strategy for the Convention on Long-range Transboundary Air Pollution (~~ECE/EB.AIR/2018/4~~);

(b) The 2016 scientific assessment of the Convention; and

(c) Policy response to the 2016 scientific assessment of the Convention (ECE/EB.AIR/WG.5/2017/3, ECE/EB.AIR/WG.5/2017/3/Corr.1 and ECE/EB.AIR/2017/4).

52. The revised mandate contained below, includes the key objective and functions of the Task Force and the Centre to be carried out on an ongoing basis. ~~It is expected to be in place for the next 5 to 10 years.~~ Additional activities, and specific tasks and associated deliverables to be carried out in a shorter timeframe, will be included in the biennial workplans for the implementation of the Convention.

53. The lead country or countries have the responsibility for leading and coordinating the ongoing work and tasks of the Task Force, for organizing its meetings, for communicating with participating experts, for maintaining an up-to-date webpage that includes information on the activities, work, meetings and participants of the Task Force, and for other organizational arrangements in accordance with the biennial workplan. Chairs of the Task Force are appointed by the lead country or countries to carry out these responsibilities.

54. The Task Force and the centre are responsible for carrying out the work assigned to them in the biennial workplans approved by the Executive Body, and reporting thereon, as well as for keeping other relevant bodies apprised of its work.

55. The Task Force will be comprised of subject matter experts from the Parties to the Convention, acting in their personal capacity.

56. Meetings of the Task Force will be open to representatives of intergovernmental or accredited non-governmental organizations, researchers, industry associations, and other relevant organizations. Co-Chairs are encouraged to invite individuals with expertise relevant to the work of the Task Force. Meeting reports will reflect the views of all participants to the extent practicable.

57. In the event that a lead country needs to discontinue its leadership role, it is encouraged to notify the secretariat, co-chairs, and other lead countries as soon as possible, but preferably no later than 1 year prior to the time it will need to cease its leadership activities. In that event, the withdrawing lead country will make every effort to ensure a smooth transition to the next leadership model, by ensuring that all data and any other information required for the operations of the task force are provided to the appropriate country or person(s).

2. Revised mandate for the Task Force and the Programme Centre of the International Cooperative Programme on Effects of Air Pollution on Materials, Including Historic and Cultural Monuments (ICP Materials).

58. ~~Sweden and Italy lead the Task Force of ICP Materials, while Sweden leads the Programme Centre. The main research centre is located at Rise, Stockholm.~~ The Task Force is responsible for important and strategic decisions regarding the Programme while the main research Centre is responsible for implementation of these decisions.

59. The Task Force and the Centre report on their activities and deliverables to the Working Group on Effects.

60. The functions of the Centre and the Task Force are to:

(a) Monitor and assess of the impact of the environment on corrosion and soiling

effects on materials as well as their trends by:

- (i) Maintaining and developing an international network of atmospheric corrosion test sites;
- (ii) Conducting regular short term (1-year) and long term (4-year) exposures of corrosion and soiling specimens and
- (iii) Collecting and measuring environmental data at the test sites. This is done by support of and collaboration with national focal points for test sites, sub-centres for materials and the sub-centre for environmental data;
- (b) Derive exposure-response functions for corrosion and soiling effects of air pollutants, in combination with other stresses such as climate change and chloride deposition;
- (c) Gather information on policy-relevant user-friendly indicators to evaluate air pollution effects on materials by conducting case studies on the United Nations Educational, Scientific, and Cultural Organization (UNESCO) cultural heritage sites including:
 - (i) Assessment of the environment and condition;
 - (ii) Risk assessment;
 - (iii) Economic assessment of damages of corrosion and soiling. This is done by support of and collaboration with the sub-centre for cultural heritage in Italy.
 - (d) Investigate the relevance of short lived climate forcers, in particular black carbon from the viewpoint of soiling of materials;
 - (e) Further develop modelling and mapping procedures by supporting regular updates of the *Modelling and Mapping Manual* (chapter IV) in collaboration with the ICP Modelling and Mapping procedures for mapping corrosion and soiling effects on materials;
 - (f) Further develop and improve methodologies for measuring air pollution effects of materials by co-operation with external (non-Convention)- relevant standardisation bodies, such as the International Organization for Standardization (ISO) Technical Committee 156 Corrosion of metals and alloys;
 - (g) Carry out other tasks assigned to it by the Working Group on Effects and the Executive Body.

F. Revised mandate for the Task Force on the Health Aspects of Air Pollution

1. Introduction

61. The current terms of -reference (mandates) for International Cooperative Programmes (ICPs) and the Task Force on the Health Aspects of Air Pollution ~~had been~~ are specified in document *Future Development of Effects-Oriented Activities* (EB.AIR/WG.1/2000/4, Annexes II-VIII) approved by the Working Group on Effects (WGE) and the Executive Body in 2000.

62 Within the period of its existence, the Task Force on Health has provided scientific evidence of health effects of long-range transboundary air pollutants by delivering a series of health assessment reports by pollutant: persistent organic pollutants (2003), particulate matter, ozone and nitrogen dioxide (2003), particulate matter (2006), heavy metals (2007), particulate matter from various sources (2007), ozone (2008), black carbon (2012) and

residential heating with wood and coal (2015). Until 2017, the 20 sessions of the annual Task Force meeting have been a platform where Parties can share recent policies and activities related to air pollution and health and update on the progress in research on health impact of air pollution. The Task Force meetings have also contributed to Parties' capacity building. Further, the overall the Task Force activities have supported the effective implementation of the existing protocols and their expected revisions.

63. The mandates for the task forces and centres under the Working Group on Effects ~~need to be revised~~ revised and updated to ensure that they are consistent with the provisions of the amended protocols to the Convention, ~~as well as its~~ and to take into account the findings and strategic priorities ~~as~~ set out in the following documents:

(a) Revised Long-term Strategy for the Convention on Long-range Transboundary Air Pollution (~~ECE/EB.AIR/2018/4~~);

(b) The 2016 scientific assessment of the Convention; and

(c) Policy response to the 2016 scientific assessment of the Convention (ECE/EB.AIR/WG.5/2017/3, ECE/EB.AIR/WG.5/2017/3/Corr.1 and ECE/EB.AIR/2017/4).

64. The revised mandate contained below, includes the key objective and functions of the Task Force to be carried out on an ongoing basis. ~~It is expected to be in place for the next 5 to 10 years.~~ Additional activities, and specific tasks and associated deliverables to be carried out in a shorter timeframe, will be included in the biennial workplans for the implementation of the Convention.

65. The lead country or countries have the responsibility for leading and coordinating the ongoing work and tasks of the Task Force, for organizing its meetings, for communicating with participating experts, for maintaining an up-to-date webpage that includes information on the activities, work, meetings and participants of the Task Force, and for other organizational arrangements in accordance with the biennial workplan. Chairs of the Task Force are appointed by the lead country or countries to carry out these responsibilities.

66. The Task Force is responsible for carrying out the work assigned to it in the biennial workplans approved by the Executive Body, and reporting thereon, as well as for keeping other relevant bodies apprised of its work.

67. The Task Force will be comprised of subject matter experts from the Parties to the Convention, acting in their personal capacity.

68. Meetings of the Task Force will be open to representatives of intergovernmental or accredited non-governmental organizations, researchers, industry associations, and other relevant organizations. Co-Chairs are encouraged to invite individuals with expertise relevant to the work of the Task Force. Meeting reports will reflect the views of all participants to the extent practicable.

69. In the event that a lead country needs to discontinue its leadership role, it is encouraged to notify the secretariat, co-chairs, and other lead countries as soon as possible, but preferably no later than 1 year prior to the time it will need to cease its leadership activities. In that event, the withdrawing lead country will make every effort to ensure a smooth transition to the next leadership model, by ensuring that all data and any other information required for the operations of the task force are provided to the appropriate country or person(s).

2. Revised mandate for the Task Force on the Health Aspects of Air Pollution (Task Force on Health).

70. The Task Force on Health Aspects of Air Pollution is a joint body of the Executive Body and the World Health Organization (WHO), ~~led by the WHO European Centre for Environment and Health (Bonn, Germany)~~. The key objective of the Task Force is to assess the health effects of long-range transboundary air pollution and provide supporting documentation. Assessments aim to quantify the contribution of transboundary air pollution to human health risks and help define priorities for guiding future monitoring and abatement strategies.

71. The Task Force reports on its activities and deliverables to the Working Group on Effects.

72. The functions of the Task Force on Health are to:

- (a) Quantify health impacts of long-range transboundary air pollution;
 - (b) Expand the knowledge base by consolidating existing evidence on health outcomes of exposure to air pollution and by identifying emerging issues of health relevance;
 - (c) Provide a forum to the Parties and expertise to exchange recent research, experiences and suggestions on the health impact of air pollution;
 - (d) Assist Parties in quantifying the health impact of transboundary air pollution and defining priorities to guide future monitoring and abatement strategies;
 - (e) Facilitate Parties to communicate of health risks associated with air pollution exposure;
 - (f) Contribute to capacity building on quantifying health impacts of air pollution and assessing the health benefits from reducing air pollution in Eastern Europe, the Caucasus and Central Asia by developing a curriculum and supporting the use of health impact quantification tool;
 - (g) Cooperate with the Working Group on Effects and EMEP on the tools and methods to facilitate streamlining of methodological approaches to assessing the effects of air pollution;
 - (h) Collaborate with EMEP to assess the hazardous of air pollutant in the region;
 - (i) Collaborate with other processes and organizations (Environment and Health Process, Health 2020, Paris Agreement, Sustainable Development Goals and United Nations Environment Assembly) to identify and realize synergies;
 - (j) Carry out other tasks assigned to it by the Working Group on Effects and the Executive Body.
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